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-MODEL=frame+ p2n.model -DEV=xlh
-MODEL=frame+ p2n.model -DEV=xlh
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-G=/CG02_1/USF7C_spool/US09522753/runat_15042004_143738_17456/app_query.fasta_1.2695
-DEJESUGL PARTELS NA -OFMT=fastap -SUFFIX=rni -MINMATCH=0.1 -LOOFCL=0
-LIST=100 -DOCALIGN=500 -THR SCORE=pct -THR MAX=100 -THR MIN-0 -ALLIGN=100
-MODE=LOCAL -OUTFMT=pct -NORM=ext -HEAPS12E=500 -MINLEN=0 -MAXLEN=2000000000
-USER=US09522753_@CGN_1 1_186 @runat_15042004_143738_17456 -NCPU=6 -ICPU=3
-NO_MAAP -LARGEQUERY -NEG_SCORES=0 -WALT -DSPBELOKE,100 -LONGLOG
-DEV_TIMEOUT=120 -WARN TIMEOUT=30 -THRRADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
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                       GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
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US-09-103-840A-2
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US-09-103-840A-2
US-09-103-840A-1
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| 1950 GOCTHAGOCCASCACCACCACCACCACCACCACCACCACCACCACCAC |
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APPLICANT: Guetafason, Claes
APPLICANT: Betlach, Mary C.
APPLICANT: Allien, Bryan
APPLICANT: Allien, Bryan
APPLICANT: Ziermann, Rainer
TITLE OF INVENTION: SORANGIUM POLYKETIDE SYNTHASES AND ENCODING DNA
TITLE OF INVENTION: 1990-09-31
TITLE OF INVENTION: 1990-09-31
GURRENT APPLICATION NUMBER: US/09/144,085
CURRENT APPLICATION NUMBER: US/09/10,809
EARLIER APPLICATION UNBER: 09/010,809
EARLIER FILING DATE: 1998-01-22
NUMBER OF SEQ ID NOS: 8
SOFFWARE: Patentin Ver. 2.0
SEQ ID NO 3
                          7305 GCCGCCAGCCTTCTTCAGCAAGCTGACCGAGAGCAACTCCGCCATGGTCAAGTCCAAGAA
                                                                                                                                                   rArgSerGlnAlaValGlnGluHisAlaSerThrAsnMetGlyLeuGluAlaIleIleAr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 3, Application US/09144085; Patent No. 6280999; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                      nSerlysProPheSerIleGlnGluLeuGluLeuArgSerLeuGlyTyrHisGlySerSe
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| 21936 CGCGTTCGTCCCGCTGATCCCGAACGACGACGCCGGCACGGACGG | GAGCACCATCTTGATCACGCCCGC | 324 AlalysGluSerLysValArgGluTyrTyrGluLysGlnPheProGlularglyB | 21633 380 21573 400 | 21525 419 21465 439 21408 | 458 21364 478 21316 | 21256 dGTCGCATTCGCCCTGGCGCAGCGCCAGCTGCAGCGCACACCAGCGACGACGACGACGACGACGACGACG |
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| 9 6 9 6 9 | 8 8 8 8 | 8 8 8 8 | 6 6 6 6 | 8 6 8 6 8 | 68686 | 8 8 8 8 8 8 8 8 |
| 33529 Sorangium cellulosum 5-3 ores: 7.28e-21 726.50 larity: 32.36* imilarity: 22.08* | 5.50% Indels: 3 Gaps: 17) x US-09-144-085-3 (1-33529) yrProProHisserleuSerTyrProValC | 36 AspValGlyLeuLeuGlufyrGlnHisHisSerArgAspTyrAlaSerHisLeuSerPro | Qy 76 AsnGluArgSerGln | Qy 97 LysSerGluMetGluPheIleGluSerLysArgProArgLeuGluLeuLeu 113 | AGCAC luLeu ::: GCATC rgGlu ::: | Oy 183 IleThrMetValGluGlnIleSerLysLeuLysGlnGlnGlnLeuGluGlu 202 12164 CACCGACGCCGCACTCGAAGTGCTCCGTGCCCCCCCCCC |

| | | Ov 808 ProProProAlaProProSerProSerAlaPro |
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| à | 568GlyArgLysThrAlaAsnSerGl 575 | ::: ::: |
| qa | 20959 GCACCAGCCGATGCTGCGGATCCATCGACTGCGCCGCGGCGGTA-TCCCGAAGAAG 20901 | |
| ò | 575 nGlyArgArgLysGlyArgIleThrArgSerMetAlaAsnGluAlaAsnSerGluGluAl 595 | 6 6 6 6 |
| qa | 20900 TICGCGICGAACAGGICGAIGICCCGAACAAACCCACCTICGCGCGCGIAGCTCTIGCCI 20841 | 17826 |
| δ | 595 alleThrProGlnGlnSerAlaGluLeuAlaSerMetGl 608 | |
| q | 20840 GCGGCCTCCGGATCAGGGTCGTAGACCTCGGACCCGTCCCAGCGCGCTGGGAGGCCTTCG 20781 | 19766 |
| ò | 608 uLeuAsnGluSerSerArgTrpThrGluGluGluMetGluThrAlaLysLysGlyLeuLe 628 | OY 864 SEFGIUCYSINFGLUGIUALAGIUGIUGIYFFOALALYSGLY |
| qa | 20780 ATCGCGTCCTTCCCCTCGGCCAAGAGACGCCAGTAGTCGTCCGGCGTCGCAACGCCTCCC 20721 | |
| ò | 628 uGluHisGly-ArgAsnTrpSerAlaIleAlaArgMetValGlySerLysThrValSerG 648 | OY 084 GIUATAITIKATAGITUGIYATAGAULUSBATAGITULYBIYATAGATUR ::: |
| qa | 20720 GGCAGCCGGCCCATCGACACGATCGCGATCGGCTCGTCTTTCCCTGCACGACGACGCC 20661 | 13040 CG-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1 |
| ò | 648 lnCysLysAsnPheTyrPheAsnTyrLysLysArgGlnAsnLeu 662 | 1 |
| අු | 20660 ACCGGGCCGGCGTTCCTTCACCTGCAGCCCCGAGAACGCCTGCTTCAGCAGCAGCTCT 20601 | 924 ABD |
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| <u>a</u> (| GCGATCGCCCGCGGCGTCGGGGTAGTCAAAGACCAGCGTCGCCGGCAAGGACGTCTCGGTA | Qy 939 SerProArgProSerLeuLeuThrProThrGlyAspPro |
| हें : | 673 etGluLysGluArgAsnAlaArgArgLysLysLysLysLys | Db 19496 CCGCCTGCGCGCGCACCAGGCGCGCGGCCAGCGCAGCGC |
| අධ ර | | Qy 958 GlnLysProteuAspteuLysGlnLeuLysGlnArgAlaAla |
| රි ස් | 686 | Db 19436 GCTCCGCCGCCGTCGCCAGCC |
| 3 8 | 20400 GCACCIGAICCGCIGCCACAGCCIGGAGGCCCIGAAGCCCIGCCACGGCCGCAACCIGG 20421 | Qy 978 ValThrLysValHisGluProProArgGluAspAla |
| % 8 | CCCGCACCAGCTCGACGAGGCGCATTCAGCCCTCCGGCTCCGGCAGGCGCCGAGAGGCGCT | Db 19397 cgrccacggcrccgcrccccaracgarcaagcgcagc |
| ò | | |
| qa | 20360 CGCGGAGCGCCGGCTCGCTCGCTGCCGAGGCGCTTGCGCAAGCTCG 20307 | т |
| ò | 738 lyProAlaThrValAsnAsnSerSerAspThrGluSerIleProSer-ProHisThrGlu 757 | OY 1008 GIUSETABPALARIOGINFIOGINESESEFFOARGGEY |
| qq | 20306 GGCGCAACAGCGCACGAAACAGCGCCGGCAGCTCGCCGCGCGGAGCTCCAGCCCACGCTGCA 20247 | • |
| ò | | 19217 |
| a : | 20246 GCTGCGCGAGATCCAGGTGCACTGGGACCAGGCTTCAGGGCGTGAGAGCGCGGCGT 20187 | Qy 1048 CysTrpThrSerGlyLeuProPheProValProProArgGlu |
| 3 8 | CCAGCAGAGGCCTCTTCCACCAGCATCGCCACCAACCCATTGCGCCTCATGCGC | Db 19172CGTGGGACAACGACGCCACTCCCGACTGACTCT |
| ò | | Qy 1068 HisAlaProAspProSerAlaPheSerTyrAlaProProGly |
| ; A | ACAGCTCGGCCCCAGGTGCGCTGTCATCCCCACGCCCGGCTGTGTCCAGGAAGCCC | Db 19121 CGACCGCCGCGCGCGCGCCTCGCGCCCTGCTCGAGG |
| ìò | | Oy 1082HisProLeuProLeuGlyLeuHisAspThrAls |
| ପ୍ର | 20066 ACGCCAGGCTCGTCGCCGCGAAGCCCGCCGCGCGCGCGCG | 19061 |
| ò | 775 AlaAspGlyProProProGlyProProThrProProkrg 787 | Qy 1099 ProProThrileSerAshProProFroLeuileSerSerAla |
| අ | 20006 ACGIGITCGCCGCGTAGITGCTCTGGCCGCCGCGCCAACGIACCGGCCGCCGACG 19947 | 1119 GluaraGlnIleGlvAlaIleSerGlnGlvMetS |
| ð 1 | 788 ArgThrSerArgAlaProIleGluProThrProAlaSerGluAlaThrGlyAlaProThr 807 | |
| đ | 19946 AGAACAGCACGCGCGCGGGAGTCCCGCGTCCGGCTCGTGCAGGTGCAGGCGCCC 19887 | Qy 1139 GluHisAlaLysAlaProValGlyProValThrMetGlyLev |

| IllerysAlaSerPro 1067 SCACGCAGCCACCG 19707 3GCCCCGGGCGCCTCCAGCC 19647 CAGCTCCCCTGTCCCGCCGG 19557 roArgAlaAsnAlaSerPro 957 deceegecadeagecade 19398 GCGCTCGGGGTGCTCGCTGC 19338 |||| | arccreacecercerce 19278 -----criecercerceir 19173 GCGCGCAACCAATGCTTCGA 19062 GCCCGCCTCCAGGGGGCTG 18966 ATACATATGTTGGCCACCAG 18915 CGTCTGGGCGGTGAGCACGC 19827 CGGACGCCGCGTCGATGC 19767 TCGGGTGAGCTCTTCCGCTG 19497 --ceecchecrecercerc 19014 ysLeuProGlyAspProPro 1047 laArgProValLeuProArg 1098 laLysHisProSerValleu 1118 InLeuHisValProTyrSer 1138 roproglnAsnLeuGlnPro 1007 roProProValValProLys 824 luGluGlyGluGluGln--- 843 ysAlaGluGluProValLys 863 lyLysAspalaGluAlaAla 883 erSerAlaThrCysSerAla 923 86 nai----na laAlaileProProilegin 977

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| CGTGAACGGCGGTCCGCAGCTGCTCGGCCGTCGCCCGGCGCAGATGTAGAGCGCCGATGC |
| ProLeuProMetAspProLysLysLeuAlaProPheS(|
| TCGCCACGCCT |
| |
| CGGTGTCCTGCTGCGCCTCCGTCCTGGAACTCTACCCGAAACTCGAAACTCGCTCG |
| ArgGlyGlnAlaGlyProProGluSerLeuGlyValProThrAlaGluGluAlaSerVal |
| CCGTCGCGTGCAGCGCCACGT |
| 1195 LeuargGlyThralaLeuGlySerValProGlyGlySerIleThrLySGlyIleProSer |
| CCTCGTTCGCCCCTGGGCTCTCGGAAAAGCCCGCGACACCATCATCG |
| ThrargvalproSerAspSerAlaIleThrTyrArgG1ySer1LeThrH1s |
| TGTGGAGCGĊĠĠCGTCCÀTCAAC-GCC |
| 1232 GlyThrProAlaAspValLeuTyrLysGlyThr1leThrArg1le-1L |
| TCGGTCCCC |
| 124 / GGI VOLUMBEDGE TE COSTANTE DE LES PROPERTES DE L'ANTION DE L'ANTIONNE DE L'ANTIO |
| 1266 yHisVallleTyrGluGlyLySLy8GlyHisValLeuSerTyrGluGlyGlyMetSerVa |
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| 1286 lThrGlnCysSerLysGluAspGlyArgSerSerSerGlyPro- |
| CGTAAAGCCCGGACAĠĠŦĊĊACCTCCGCGCCCGGC |
| 1302 sGluThrAlaAlaProLysArgThrTyrAspMetMetGluGlyArgValGlyArgAlaII |
| 18459 ACAGGCCACGTCGACAGCTCGTCGAGCGACAGGGATGCCGGGGGGGCTCGTCCGTC |
| 1322 eSer |
| 18399 CTCCCGTCGCGTGCTGCACCCACGGC |
| 1336 oProGluArgHisSerProHisHalsLeuLy8Glu |
| |
| 1348GlnHisHisHeArgGlySerIdeInKGl |
| |
| 1357 nGlyileBroArgSerTyrValGluAladinGluAspiyrLeuArgArgGluG |
| 18219 CCGCGCGCCCGCCGCCAGCACCAGCTC |
| 1375 aLysLeuLys |
| 18159 CAAACACCTCATGATCCCGAAGCCACGGATGCTCCGCCAGCGACAGCCGCCCTGTGAACA |
| 1386 -Pro-ProProSerArgAspLeuThrGluAlaTyrLysThr- |
| 18099 gerecccercecercesagecreeresesesesesesesesesesesesesererecreere |
| 1402 euGlyProLeuLysLeu-Lys |
| TGAGCCCGGAGCTCACGTCGCTCGCTCGCTCGCTCGCTCG |
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| 7979 GCTGAAACG | CCACGACACGACCGC 179 |
|---|--|
| 435 HisThrPro(940 CGTGGCCCG | HisThrProGluLeuProLeuAlaProArgProLeuLysGluGlySerIleThrGlnGly 1454 |
| 55 | hrGlySerLysLysHi ::: - |
| 7904 GCCCCIGCA 1475 Serbeulle 7847 CGCGCTGCA | alMetAla 1494 ::: CGTCGTCA 1779 |
| 93 | AspalakrgAlaLeuGluArgAlaCysTyrGluGluSerLeuLysSerArgProGly 1513 |
| 4 W | ThralaserSerSerGlyGlySerIleAla-ArgGlyAlaProVall1 1529 :::::: |
| σ π | eValProdluLeuGlyLysProArgGln-SerProLeuThrTyrGluAspHisGly 1547 |
| 13 | .cgrceccrrcaccaccacacactrccrcracrccaccacacca |
| 5.4 | LeuProArgGlySerProValThrMetArgGluProThrProArgLeuG 1570 |
| 70 lnG 93 TCA | IndlySerLeuSerSerLysAlaSerGlnAspArgLysLeuThrSerThrProA 1590 |
| 1590 rgGluIleA ::: 7434 GACGTGTTC | rgGluIleAlaLy8Ser 1595 ::: :: :: :: :: :: :: :: :: :: :: :: |
| 9 4 | ProHisSerThrValProGluHisHis |
| 608 les ::: 314 TGG | erProTyrGluHisLeuLeuargGlyValSerGlyValAspLeuT 1624 |
| 624 | yrArgSerHisIleProLeuAlaPheAspPro |
| 35 | hrserlleproargglylleproLeuaspalaalaalaalaTyrTyrLeuproArgHist 1655 ::: |
| 1655 euAlaPro/ 17135 CCGCTCCA | eualabroasnProThrTyrProHisLeuTyrProProTyrLeuIleArgGlyT 1673 |
| 1673 yrProAspThrAla 17075 GCCGTCCACGGCC | ThralaalaLeuGluasnArgGlnThrIleIleAsnAspTyrIleThrSerG 1693 ACGGCCGCAGCGCTCATCGCACGCCTGCA |
| 1693 lnGlnMet) | HisHisAsnThrAlaThrAlaMetAlaGlnArgAl |
| ო • | ArgGluSer |
| 16994 CATCCCCG | ************************************** |

| 1 1 1 | Oy 2069 GlyLeuProLysHisLeuGluGluLe 15769 AGCCGTCCAACGCCGCCAGGTCGCT Oy 2089 LysGlnProGlyProValLysLeuG] 15715 TCGAGCCCAGGTACACCCGGTGGAC Oy 2109 LeuProGluSerGlnProSerSerSe Oy 2109 LeuProGluSerGlnProSerSerSe Oy 2109 CEUTCAAGTGCCTCCCACGCTGGAC DD 15655 GCTCCAAGTGCCTCCCACGCCGT | Oy 2129 HisGlnArgValValThrLeuAlaGi Db 15610 GATCCATCGCCTGCGGGG Oy 2149 ArgHisHisProGlnGlnLeuSerA; Db 15577 CGAAGACCGCTTCGAACAGG OY 2169 AlaSerCysProValLeuAspLeuAn Db 15520 AGGTCTTGCCCA | Qy 2189 AspHisGlyAlaProAlaArgGlyS Db 15499 GATCGGGGTCGTAAATCGAAGGTGCZ Qy 2206 SerProGluProAsnLysThrSer | Oy 2226 SerProProGluGlyMetTP | 2260 2260 15139 2279 15079 2299 15019 | Qy 2319 lleThrGly |
|--|--|--|--|------------------------------|---|--|
| 1733 spleuSerdInValProHisLeuProValLeuValProProThrProGlyThrProAlaT 1753 | 1787 ysprothrThrThrSerSerSerGluArgGluArgAspArgAspArgGluArgAspArgAs | 1847SerSerSerArgProAlaSerHisAlaHisAlaHisGlnHisSerPro ::: | 1899 ArgSerThrSerThrSerScorGcGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG | | | 15970 ATCCGCGGGGTGTGATCATCACCATCACCCGGTCAAGGCCAGATCGCACTCGCCCT 15911 |
| 8 4 8 4 8 4 | 8 6 8 8 8 | 8 8 8 8 | 3 6 6 6 6 6 | 8 8 8 8 8 | 8 8 8 8 8 | qq |

| | 2015 | ProAlaSerAlaSerAspProHisArgGluLysThrGlnSerLys 20: | 029 |
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| _ | 15910 | GTGCACGCCAGGTGCACACCAGCGACGACGAGCACACACGCCGTGTCCA 15 | 5851 |
| | 2030 | erlleGlnGluLeuGluLeuArgSerLeuGlyTyrHisGlySerSerTyrSer 20 | 049 |
| | 15850 | | 5815 |
| | 2050 | ThrHisAspLys 20 | 89 |
| | 81.4 | | 2 2 |
| | 2007 | GIYLERIYYOLYSHISELEUGIUGIULEUASDLYSSERIISELEUGIUGIUGIUGIUGIUGIUGIUGIUGIUGIUGIUGIUGIU | 9 6 |
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| | 2089 | LysGinProGlyProValLysLeuGlyGlyGludlaAlaHisLeuProHisLeuArgPro 21. 1.1. | 2108 15656 |
| | 2109 | 21 | 128 |
| _ | 15655 | 15 | 5611 |
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| | 15319 | 15 | 5260 |
| | 2238 | 22 | 248 |
| | 15259 | 15 | 2200 |
| | 2249 | 22 | 259 |
| | 15199 | TCGGCGAGATCTTCGAAATCGGAAATGGGAACCGGAACCTCGACGGATGTTTCGGACGGC 15: | 5140 |
| | 2260 | LygSerProGlyAsnThrSerGlnProProAlaPhePheSerLysLeuThrGluSer 22 | 278 |
| | 15139 | 15 | 2080 |
| | 2279 | AsnSerAlaMetValLysSerLysLysGlnGluIleAsnLysLysLeuAsnThrHisAsn 229 | 298 |
| | 15079 | 15 | 5020 |
| | 2299 | ArgAsnGluProGluTyrAsnIleSerGlnProGlyThrGluIlePheAsnMetProAla 23: | 318 |
| | 15019 | 14 | 4969 |
| | 2319 | <pre>IleThrGlyThrGlyLeuMetThrTyrArgSerGlnAlaVal 23:</pre> | 332 |

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2102 HisLeuProHisLeuArg-------ProLeuProGluSerGlnProSerSer 2116
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Conservative:
Mismatches:
Indels:
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                                                                                                                                                                                                                                                         Length:
PELECOMMUNICATION INFORMATION:
               TELEPHONE: 617/542-5070
TELEPRA: 617/542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO: 9: SEQUENCE CHARACTERISTICS:
LENGTH: 1922 base pairs
TYPE: mucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: DNA
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Best Local Similarity:
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                                                         2333 GlnGluHisAlaSerThrAsnMetGlyLeuGluAlaIleIleArgLysAlaLeuMetGly 2352
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                                                                                                                                                                                                         2373 AlaSerAlaSerLeuProAlaAlaMetProIleThrAlaAlaAspGlyArgSerAspHis
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Patent No. 5932699
GENERAL INFORMATION:
APPLICANT: Moore, David
APPLICANT: Seol, Wongi
APPLICANT: Choi, Hueng-Sik
TITLE OF INVENTION: RETINOID X RECEPTOR-INTERACTING
TITLE OF INVENTION: POLYPEPTIDES AND RELATED MOLECULES AND METHODS
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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STREET: 225 Franklin Street, Suite 3100
CITY: Boston
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FILING DATE: 13-JAN-1995
ATTORNEY/ACENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00786/246001
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14908 CGATTGCGGACTTCGACGGCCAIG-
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ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of
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US-08-372-652-9
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                       APPLICANT: Seol, Wongi
APPLICANT: Choi, Hueng-Sik
TITLE OF INVENTION: RETAINOID X RECEPTOR-INTERACTING
TITLE OF INVENTION: POLYPEPTIDES AND RELATED MOLECULES AND METHODS
NUMBER OF SEQUENCES: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1922
212
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PALENTIN Release #1.0, Version #1.30
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Matches:
Conservative:
Mismatches:
Indels:
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                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/372,652
FILING DATE: 13-JAN-1995
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REPERENCE/DOCKET NUMBER: 00786/246001
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGGAACGTGGCTCTCAAAGTTCAGACTCTTCT-
                                                                                                                                                 B: Fish & Richardson P.C.
225 Franklin Street, Suite 3100
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                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/16311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEX: 200154
INFORMATION FOR SEQ ID NO: 9
SEQUENCE CHARACTERISTICS:
LENGTH: 1922 base pairs
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ADDRESSEE: Fish & Ri
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STRANDEDNESS: sing
   GENERAL INFORMATION:
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CITY: Boston
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|1034 ATGTTGCTCTTGTCACAAGGGAGTGGACCCTGCTGAGCAAAGGAGTGATTCTCGATCA 1093
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1388 GGTGTTGTCATGTCCCATCCTGTG-----GGCATTATGCCTGGTAGTGCCAGCACC 1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |||:::
TCAGTG------GTGACGAGCAGCGAGGAGAGAGAGAGAGGGAGCCA 1483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ValHisSerGluGlyAspCysAsnArgArgThrProLeuThrAsnArgValTrpGluAsp 2452
                                                                                                                                2242 TyrProLeuLeuTyrArgAspGlyGluGlnThrGluProSerArgMetGlySerLysSer 2261
                                                                                                                                                                                                                                                            2262 ProglyAsnThrSerGlnProProAlaPhePheSerLysLeuThrGluSerAsnSerAla 2281
                                                                                                                                                                                                                                                                                                                                    MetValLysSerLysLysGlnGluIleAsnLysLysLeuAsnThrHisAsnArgAsnGlu 2301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrGlyLeuMetThrTyrArgSerGlnAlaValGlnGluHisAlaSerThrAsnMetGly 2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAGGIGCAGTGAGCTCAAGAAGCCATTCTTTTGCTGATCCCGCCAGT---AACCTTGGT 1327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTAGAAGACATCATCAGAAAGGCTCTCATGGGAAGTTTTGATGATAAAGTTGAAGATCAT 1387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysserProAlaProGlyLeuAla----SerGlyAspArgProProSerValSerSer 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ArgProSerSerAlaGlySerThrProPheProTyrAsnProLeuIleMetArgLeuGln 2472
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----CTCAGCAGTACACCACTACAGATCGCATGCGCCCCATCTGCCATCACC 1765
                                                                                                                                                                                                                                                                                                                                                                                                              2302 ProGluTyrAsnIleSerGlnProGlyThrGluIlePheAsnMetProAlaIleThrGly 2321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerProGlyGlyGly---GlyLysAlaLysValSerGlyArgProSerSerArgLysAla 2414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1484 TCACCTCATGCAGGAGTATGCAAACCAAAGCTGATCAACAAATCAAACAGCAGGAAGTCT 1543
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1766 CAAGCAGCTCCACATCAACAGAACCGCATCTGGGAGAGGGGGGCTGCCCCGCTCTCTCA 1825
                                    GlyGlyLy8ArgSerProGluProAsnLy8ThrSerValLeuGlyGlyGlyGluAspGly 2221
                                                                                                        2222 IleGluProValSerProProGluGlyMetThrGluProGlyHisSerArgSerAlaVal 2241
                                                          ||| ::: || GGAAGCCTGGAAAAATCTCCAGAGAGGAGTCATATC-----CCATCAGAGAGCCC 979
869 GTCTTGCATCCCAGACCAGGTCCTAGAGTCTCTCCAGAAAATCTTGTGGATAAATCCCGG 928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerLeuProAlaAlaMetProIleThrAlaAlaAspGlyArgSerAspHisThrLeuThr
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2062 ProSerLeuThrHisAspLysGlyLeuProLysHisLeuGluGluLeuAspLysSerHis 2081

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| e G | 841294 GACGGTTCGGTGATTCGGGTGGTC | GACGGTTCGGTGATTCGGGTGGTCACCGCGGTGTGCAGCCAGC | 841235 | |
|------------|--|--|--------|-------|
| à | 601SerAlaGlu | SerAlaGluLeuAlaSerMetGluLeuAsnGluSerSerArgTrp | 615 | |
| qq | 841234 AAGGAACATTGCCGTTCTGCGCCT | AAGGAACATTGCCGTTCTGCGCCTATTGGGGGGTTACTTCCGGGAGTTCCAGTTCCAGGCCC | 841175 | |
| ò | 616 ThrGluGluGluMetGluThrAla | | 623 | |
| q | 841174 TCGTCGAGCACTTCGGACAACGCT | ::: TCGTCGAGCACTTCGGACAACGCTCTATTCGAGGTCAGGTCGATGCCTCGCCGCGGACCG | 841115 | |
| ò | 624 | | 636 | |
| qq | 841114 GTGCCGCCGTCGAAACCGGGACC | iercdadcadacaccaccancaradacadad | 841061 | |
| ò | 637 Ile | | 637 | |
| ор | 841060 GCGAACTCCCGCCGAAGGGCGTCC | GCGAACTCCCGCCGAAGGGCGTCCTCGATCACAGCGCCCAGCGATTGACCACGCTCGCGG | 841001 | |
| ò | 638 AlaArgMetValGlySerLysThr | AlaArgMetValGlySerLysThrValSerGlnCysLysAsnPheTyrPheAsnTyrLys | 657 | |
| QQ | 841000 GCCCGGCGTTTGGCGGCGAGCGAGTATTCA | ATTTCA | 840971 | |
| <u>ک</u> خ | 658 LysArgGlnAsnLeuAspGluIleLeu ::: :::::: 840070 | ArgGlnAsnLeuAspGluIleLeuGlnGlnHis | 669 | |
| . ; | : | ۰ ۱۳۰ | | |
| · 8 | 840916 CATCTGCGGTC-GAGCGGCCGAAC | 840916 CATCTGCGGTC-GAGCGGCCGAAGCCGTGCTGTCAACGCCGCGCGCGCGGGTCGCAGCCGC | | |
| Š | 690 AlaSerGluGluAlaAlaPhePro | AlaSerGluGluAlaAlaPheProProValValGluAspGluGluMetGluAlaSerGly | 709 | |
| QQ | 840857 CGGCTACATCAAGCCGTTCAGCCC | GTTCTCACCGAGCAGCCCGCCGCCGCCGCCGC | 840798 | |
| à | 710 ValSerGlyAsnGluGluGluMet | ValSerGlyAsnGluGluGluMetValGluGluAlaGluAlaLeuHisAlaSerGlyAsn 729 | 729 | |
| Вр | 840797 GCCGCTGGG | | 840789 | |
| à. | 730 GluValProArgGlyGluCysSer | GlyProAlaThrValAsnAsnSer | 745 | |
| ng Dp | 840788GCCGGGTGCACC | GCCGGGTGCACCCCCGGATTTCCCGGCGTTACCGCTTTACCGCCGTT | 840741 | |
| à | 746 SerAspThrGluSerIleProSerProHisThrGluAlaAla | ProHisThrGluAlaAla | 759 | |
| qq | 840740 GCGCCGTTGCCGCCGTTGCCGA1 | GCGCCGTTGCCGCTTGCCGATCAGCAGGCGCTGCCGCCGACGCCGCCCTTGCCGCC | 840681 | |
| ò | 760LysAspThrGlyGlnAsr | LysAspThrGlyGlnAsnGlyProLysProProAlaThrLeuGlyAl | 775 | |
| g G | 840680 GATGTGGAAAGCACCGGACAAACC | dereccecciódececciódicarcacerecasasec | 840621 | |
| à | 775 aAspGlyProProProGl | aAspGlyProArgArgThroProProArgArgThrSerAr | 791 | |
| дg | 840620 GAACGCTCCGGACTTGCCGCCGGC | ccceccerecces | 840561 | |
| ठे द | | galaprolleGluProThrProAlaSerGluAlaThrGlyAlaProThrProProProAl | | |
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| රු දි | 811 aProProSerProSerAlaPro | aProProSerProSerAlaProProProValValProLysGluGluLy : | 827 | |
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| S 8 | | Beinglucinistatatatatatatatatovaleinelyelueluelueluusiinyseloelooli | 047 | ····· |
| g G | 840443 GCCGAAGAGCAAGCCTCCGGCGC | :GCCGATG | | |
| à | 847 aAlaGluGluLeuAlaValAspTh | aAlaGluGluLeuAlaValAspThrGlyLysAlaGluGluProValLysSerGluCysTh | 867 | |
| g G | 840407 GACCACGCCGGCGGGTCAG-GCTGGAACCGCC | TGGAACCGCC | 840375 | |
| à i | | rGluGluAlaGluGluGlyProAlaLy6GlyLy6A6pAlaGluAlaAlaGluAlaThrAl | | |
| g | 840374GCTGCCGCCGGCCCGG | CGGAGGCGCCGAGGGAGGCAAGCCGGCGTCGCCGC | 840322 | _ |

840201 IGCTICCCCGCCGCCGCCGGCCGGCGGCGGAACAGCCCGCCGTICCCACCTG 840142 840141 ccccccccaTccccccaGccccaGcGGGGCTGCCAAACCCACCGG-GCCCGCCGGCTC-- 840085 840007 ------GCCCCGGCGCGCCCCAAGAGCGCACCG-------GCGTTGCCGCCGGC 839967 839966 cicicicarreccacceaccececaccecaccecrrcceccecceccicecceaeceaa 839907 839846 derrececedederrecederrecessacasassassas edecedes e 839786 CCCGCCGTTGACGCCGCCGATCGTTCCCCGCCGTTTCCGCCGTTGCCGAACAACCA 839727 ||||||| ::|||||||:: 839726 GCGGCGGGCTCGGCGCTCAGCCCCGGAGTGCC-------GTTGGCGCCGT 839677 839676 TGCCGATCAGCGGACGCCCGGTGAGCGTCGGAGGGGTCGTTCACCATATTGATCACGT 839617 839556 ACAGCACCCCCCCGGTACCGCCGATGCCGGCCTTGCCCAGGGTCGCGCCGGTCCCGCCGC 839497 839388 TGCCGATCAGCCCGGGGGCCCCGGCCGGGGGCGCTGTCTTTTAC 839329 840321 CGGCCCCCCCCCCCTCCGGAAACTCCGGCGGCGGTGCTATGGCTGCCGGCGCCGCCGCCGG 840262 839906 GAGCAAGGCGGCTCCGCCGGCCAATCCCGCCGAGGCCGGTGGCGCCCGGCCGCCGC 839847 839616 CCTGCTGCAGGGTGTGCAGGGGGGGAGGTGCTGGCGGGGGGCCGTAAAGCCGTCCAGGCCCA 839557 839496 receeccerrecceccerreccarcaacaceccereccecceccecceccecceccecceccar 839437 1027 aProProAlaAspLysGluAlaPheAlaAlaGluAlaGlnLysLeuProGlyAspProPr 1047 OProProLeulleSerSerAlaLysHisProSerValLeuGluArgGlnIleGlyAlaIl 1125 1142 -LysAlaProValGlyProValThrMetGlyLeuProLeuProMetAspProLysLysLe 1161 oGluSerLeuGlyValProThrAla --- GlnGluAlaSerValLeuArgGlyThrAlaLe 1200 1200 uGlySerValProGlyGlySerIleThrLys------GlyIleProSerThrArgVa 1217 987 uAspAlaAlaProThrLysProAlaProProProProProProProGlnAsnLeuGlnPr 1007 1007 oGluSerAspAlaProGlnGlnProGlySerSerProArgGlyLysSerArgSerProAl 1027 1047 oCysTrpThrSerGlyLeuProPheProValProProArgGluValIleLysAlaSerPr 1067 oHisAlaProAspProSerAlaPheSerTyrAlaProProGlyHisProLeuProLeuGl 1087 1087 y-----LeuHisAspThrAlaArgProValLeuProArgProProThrIleSerAsnPr 1105 1125 eSerGln------GlyMetSerValGlnLeuHisValProTyrSerGluHisAl 1141 1161 uAlaProPheSerGlyValLysGlnGluGlnLeuSerProArgGlyGlnAlaGlyProPr 1181 sSerSerGlyAlaProGlnAspSerAspSerSerAlaThrCysSerAlaAspGluValAs 927 pGluAlaGluGlyGlyAspLysAsnArgLeuLeuSerProArgProSerLeuLeuThrPr 947 oThrGlyAspProArgAlaAsnAlaSerProGlnLysProLeuAspLeuLysGlnLeuLy 967 sGlnArgAlaAlaIleProProIleGlnValThrLysValHisGluProProArgGl 987 aGluGlyAlaLeuLysAlaGluLysLysGluGlyGlySerGlyArgAlaThrThrAlaLy 907 1141 a-------947 296 1181 887 907 1067 1105 g

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| GATCAGCCCGGCCAGCAGTCCGCCGGTCCCGCCGGC | SerLysProThrValLeuArgSerThrSerThrSerSer-ProValArgProAlaAlaTh 1912 | 1932 | GGCCCCACGGGCGCCCACAGCCCA | | 1952 gAlaAspThrGlyHisAlaPheLeuAlaLysProProAlaArgSerGlyLeuGluProAl 1972 | 1992 | CCGCCGCCACCCGCCGAGCTGCCTCCGGCCCCGCCGGGTACCCCACAG 837262 | aThrileAlaArgThrProAlaLysAsnLeuAlaProHisHisAlaSerProAspProPr 2012 | | GCCCCCCCGCCGACCAGCCACCCA | rlleGlnGluLeuGluLeuArgSerLeuGlyTyrHisGlySerSerTyrSerProGluGl 2052 | 837177 | yValGluproValSerProValSerSerProSerLeuThrHisAspLysGlyLeuProLy 2072 | CCGGGGGGCCCCGGTGGCCCCGCTGCCGACCGCCCCGGGGGTGCCG- 837132 | SHisLeu-GluGluLeuAspLysSerHisLeuGluGlyGluLeuArgProLysGlnProG 2092 | | Z092 19PEOVALLYBLENGIYGIYGIUALAALAALAALSEENPROHISBLENARGPROGENS Z11Z | 2112 erGlnProSerSerSerProLeuLeuGlnThrAlaProGlyValLysGlyHisGlnArgV 2132 | GGCGCCCAGCAGCCCACTGATCCCACCGCGCCG | alValThrLeuAlaGlnHisIleSerGluValIleThrGlnAspTyrThrArgHisHisP 2152 | GTATCACCCGCGGTCCGGTT | roGlnGlnLeuSerAlaProLeuProAlaProLeuTyrSerPheProGlyAlaSerCysP 2172 | roValLeuAspLeuArgArgProPro | GCCGGTCACGGCGCCTTGCCCACCGGCGCCGCCCGCCGTTACCGATCAGCAACC 836834 | euTyrLeuProProAspHisGlyAlaProAlaArgGlySerProHisSerGluGlyG 2203 | GGCCTTGCCGCCCGGCCGACACCCCCGTCACCGGTTTCGCCGAACCCGCCGGCCC 836774 | 1yLysArgSerProGluProAsnLysThrSerVa LeuGlyGlyGlyGlyGluA 2220 | GCCGACCCCCACCGGAGCCCAACCAGCC-GGCGTCACCGCCGGCACCGCCGGCTCCCCCG 836715 | 2220 spGlyIleGluProValSerProProGluGlyMetThrGluProGlyHisSerArgS 2239 |
|--------------------------------------|---|------|----------------------------|--------------|--|-----------|---|---|---|--------------------------|---|--------|---|--|---|---------|--|--|-----------------------------------|---|----------------------|---|----------------------------|---|--|--|---|---|---|
| 837540 GATC | 1893 Serly ::: 837501 ACCGC | | 837453 GGCCC 1932 uMetC | 837420 GCCT(| 1952 gAlai 37369 GGCCC | 1972 aSer | 837318 CCCG | 1992 aThr] : 837261 CCCG- | | 837204 ĠĠĊĊ | 2032 rileC | 837177 | | 837176 | | 8371311 | 2092 19Pro | 2112 erGlr | 837019 CGGC | 2132 alval | 836981 | 2152 roGlr 836953 CGATC | 2172 rova] | စအစေအ ငူငေငေ | 2183 euTy | 836833 CGGC | | 836773 CGCCC | 2220 spGl) |
| g | දි දි | ò | 음 & | 쇰 | රු අ | È | qq | දු දු | ò | qq | ò | οg | ò | g | 8 1 | g (| දු ද | ò | QQ | È | QQ | 상 음 | ò | g | ò | QQ | ò | අ | è 8 |

| > | 2239 | erAlaValTyrProLeuLeuTyrArgAspGlyGluGlnThrGluProSer | 2255 |
|-----|----------|---|--------|
| Ω | 836654 | TTGCGCCGGCCCCTTGCCGCCCCACCTACCACCT | 836619 |
| >- | 2256 | ArgMetGlySerLysSerProGlyAsnThrSerGlnProProAlaPhePheS | 2273 |
| ۵ | 836618 7 | AGGCCGGCTCCGCCGGATCCACCGCTGCCGCCGCACCGAACAGCAGCCCGGCGTTGCCG | 836559 |
| > | | laMetValLy8SerLy8Ly8GlnG | |
| Ω | 836558 (| CCAGCCCCACCGACCCCACCGTTGTTGAGA | 836529 |
| > | 2293 | ysLeuAsnThrHisAsnArgAsnGluProGluTyrAsnIleSerGlnProGly | 2310 |
| Ω | 836528 | Adeccaceticidecesercesescescescescesescesescases de de de descases de | 836469 |
| >- | 2311 | -ThrGluIlePheAsnMetProAlaIleThrGlyThrGlyLeuMetThrTyrArgSerG | 2330 |
| Ω | 836468 (| ccaccaecrccaccagrrccccaaccccaccagacacagacac-cragcccaccaccacc | 836410 |
| >- | 2330 | InAlaValGlnGluHisAlaSerThrAsnMetGlyLeuGluAlaIleIleArgLyBAlaL | 2350 |
| Ω | 836409 (| GCCGTGCCCGCCAGCAC | 836393 |
| >- | 2350 6 | euMetGlyLysTyrAspGlnTrpGluGluSerProProLeuSer-AlaAsnAlaPheAsn | 2369 |
| Q | 836392 | | 836368 |
| >- | 2370 | ProLeuAsnAlaSerAlaSerLeuPro | 2379 |
| Ω | 836367 | ccoccoccaccacacacacacacacacacacacacacac | 836308 |
| >₁. | 2380 7 | AlaMetProlleThrAlaAlaAspGlyArgSerAspHisThrLeu | 2394 |
| Q | 836307 (| CAACAACCAGCCACCTGATCCACCGGCACCCCCGGCCTCGCCATCACCTACCGTGGAACT | 836248 |
| >- | 2395 | ThrSerProGlyGlyGlyGlyLysAlaLysValSer | 2406 |
| ۵ | 836247 (| ccccccccccccccccccccccccccaacaaccaaccccc | 836188 |
| >- | 2407 | -GlyArgProSerSerArgLysAlaLysSerProAlaProGlyLeuAlaSerGlyAspAr | 2426 |
| Δ | 836187 | GGGCAGGCCCAGCCAGCGGCGGACCCGCCGGCCCCACTTACCGAGCAACCA | 836131 |
| >- | 2426 | <pre>gProProSerValSerSerValHisSerGluGlyAspCysAsnArgArgThrProLeuTh i </pre> | 2446 |
| ۵ | 836130 (| CCGCCCGGCGCACCATTGGCCCCCGTGCCCGGGGCCCCGTTGGC | 836086 |
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